IN THE BRIEF DESCRIPTION OF THE DRAWINGS

Please amend the Brief Description of the Drawings as follows:

[0011] The accompanying drawings, which are incorporated into and form a part of the disclosure, illustrate embodiments of the invention and, together with the description, serve to explain the principles of the invention.

Figure 1A shows ~~an~~ a prior art amplitude defect.

Figure 1B shows a prior art phase defect.

Figure 2A shows a prior art phase defect.

Figure 2B shows a prior art technique for repairing a phase defect.

Figure 3A shows ~~an~~ a prior art amplitude defect.

Figure 3B shows a prior art technique for removing an amplitude defect.

Figure 3C shows a prior art repaired amplitude defect (protected by a cap layer).

Figure ~~4~~ 4A shows an example experimental setup for the present invention.

Figure 4B shows the illumination of a series of areas of the sample of Figure 4A.

Figure 5A shows an example diffraction pattern from a defect-free multilayer.

~~Figure 5B shows an example diffraction pattern from a multilayer with a defect.~~

Figures 5B-5D show a series of diffraction patterns from a multilayer with a defect.

Figure 6A shows an example defect in a multilayer.

Figure 6B shows a support function for reconstruction.

Figure 6C shows a reconstructed image.

Figure 7 shows an exemplary three-dimensional diffraction pattern.

IN THE DETAILED DESCRIPTION OF THE INVENTION

Please amend paragraph **[0013]** of the Detailed Description of the Invention as follows:

[0013] An experimental setup is shown in Figure ~~4~~ 4A. An incoming X-ray beam **50** illuminates an area around a defect **52**. It is preferable to use a focused beam. The beam is elastically scattered by the multilayer **54** and the defect **52**, and creates a two-dimensional diffraction pattern, which is captured on a CCD **56**. Figure 4B is a top view of the multilayer **54** of Figure 4A and shows the illumination of a series of areas of the sample of Figure 4A by rotating the incoming x-rays (**50**, **50'** and **50"**) or multilayer **54** around axis **58**. Figure 5A shows a two-dimensional diffraction pattern of a defect-free multilayer, and ~~Figure 5B shows a diffraction pattern of a multilayer with a defect~~ figures 5B-5D show a series of diffraction patterns from a multilayer with a defect. Referring again to Figure ~~4~~ 4A, to obtain a three-dimensional diffraction pattern then, the sample or the beam is rotated around Ψ, which is depicted as an axis **58**, ~~and~~ where Θ~~, which~~ is depicted as the angular position **60** of incoming x-rays **50**, with respect to axis **58**, and at ~~each position~~ a series of positions a two-dimensional diffraction pattern is recorded. These diffraction patterns are parts of the Ewald sphere in reciprocal space, and rotating the sample will lead to exploring the full reciprocal space by rotating the Ewald sphere. Figure 7 shows an exemplary three-dimensional diffraction pattern.